52060390

ULTRAVOX

SCHEMATIC DIAGRAM

TESI 3/B 110°

PAL

STEREO CCIR / NICAM

28 CTV S7096

SEPTEMBER 1996

TECHICAL DATES

- CCIR / PAL - SYSTEM
- POWER SUPPLY 220 Vac (198 -245) 50 Hz
- CONSUMPTION 85 Wh
- AUDIO OUTPUT IMPEDANCE 8+8 ohm
- OUTPUT AUDIO POWER 10+10 W
- INPUT ANTENNA IMPEDANCE 75 ohm COAXIAL
- I.F. SOUND FREQUENCY 33,4 Mhz
- QSP SOUND 5,5 MHz AND 5,74 Mhz
- AUDIO STEREO CCIR / NICAM
- I.F. VIDEO CARRIER 38,9 Mhz
- I.F. COLOUR CARRIER 34,47 Mhz
- PICTURE TUBE 110° FULL OR FLAT SQUARE
- AUTOMATICAL DEMAGNETIZATION
- DETECTOR OF VIDEO SIGNAL OF SYNCHRONOUS TYPE AT HIGH EFFICIENCY
- COMPLETELY AUTOMATICAL CIRCUIT COLOUR KILLER
- CHROME CIRCUIT WITH CRYSTAL AT STABILITY AT 4,43 Mhz

Calibration IF Video

- Apply to the exit I.F. of the Tuner (through a screened cable as Fig.1) a video signal with colour bars at 38,9 Mhz of amplitude 10mV rms.
- Connect the PIN21 of the IC204 to +6V with voltage divider of two resistor by 10K 1/4W between +12V and ground.
- Connect a voltmeter (minimum 20Kohm/V) on PIN21 of the IC204 and set LC201 until to obtain 6V (in the point of rapid change from 0 to 12V).

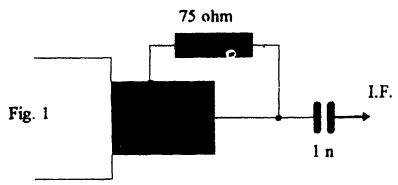


Fig. 1

Calibration A.G.C.

- Apply to antenna a signal of 1mV (60dB) with the best relation between noise and signal.
- Rotate PT203 anticlockwise.
- Connect a voltmeter (20Kohm/V-10Vfs) on the PIN2 of the Tuner (AGC) and rotate PT203 clockwise until the a intervention of the AGC, with a change in diminution.

Crome Calibration (if necessary)

- To replace CP201 with a compensator 6-50pF. Connect a generator of colour bars of 1mV to the antenna with burst of 75% and audio modulation with fixed note of L.F.
- Adjust slowly CP201 until the disappearance of the stable colour.
- Attenuate the signal and control the colour stability.

R.G.B. Final Calibration and G2 setting

- Apply to antenna a signal with modulation of colour bars.
- Adjust to the minimum saturation, brightness and contrast.
- Verify the line voltage on the cathode of the diode D411 at 146V ±1V.
- Connect a voltmeter at 200 Vfs high impedance on the cathodes of D603, D604 and D605 and adjust the channel to higher voltage to 155V ±2Vdc operating on the G2 trimmer.
- To normalize and verify the analogical levels (saturation, brightness and contrast).

M.F Stereo setting

- Apply to antenna a signal of a stereo generator (es. Philips 5518TX 1KHz-Right, 3KHz-Left) with modulation video (1mV 60db).
- To display on oscilloscope with probe 10: 1 the signal coming from PIN12 of the TDA3857.
- Rotate slowly LC101 to obtain the minimum residue video intercarrier (Fig.16).
- Check the homogeneity of the amplitude of the sinusoidal wave outgoing from the Scart. On PIN1 Scart (Right)= 1Khz and PIN3 Scart (Left)= 3Khz like in fig.20 and 21.
- To reduce eventual diaphony on the Left channel, rotate PT101 until the modulation of the sinusoidal wave of the Right channel is attenuated to the minimum.
- Also verify at the exit of the TDA8425 (Fig. 22 and 23) and power stage on the loudspeakers.

SM Power Supply

- Switch on TV in stand-by condition and connect a voltmeter between the secondary ground and the cathode of the diode D411 (BYV95). Pre-regulate PT425 at 146V.
- Set TV in program reception, reset the contrast and the brightnes and regulate PT425 to get 146V ±1V.

Geometries

- Verify the correct value of the power supply voltage (146V ±1V to zero radius).
- Syntonize the image of the grid with the extreme bars of vertical and horizontal amplitude.

Vertical Linearity

- Adjust The Trimmer PT208 for the best linearity.

Vertical Amplitude

- Adjust Trimmer PT307 for the correct dimension of the vertical image.

Correction E/ W

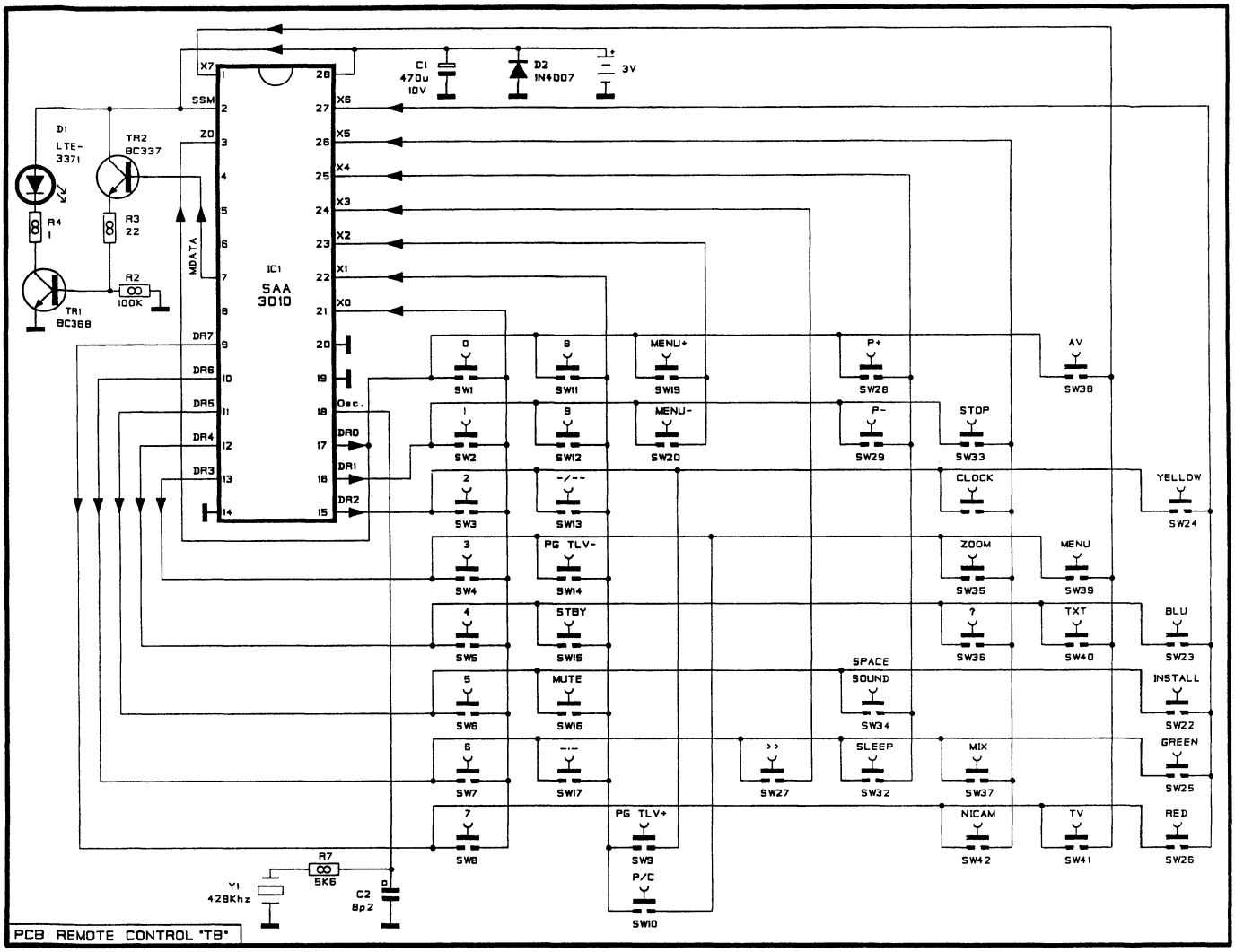
- Adjust Trimmer PT204 for the correct horizontal amplitude.
- Adjust Trimmer PT205 for the correction of the pincushion.
- Adjust Trimmer PT206 for the trapezoidal correction.

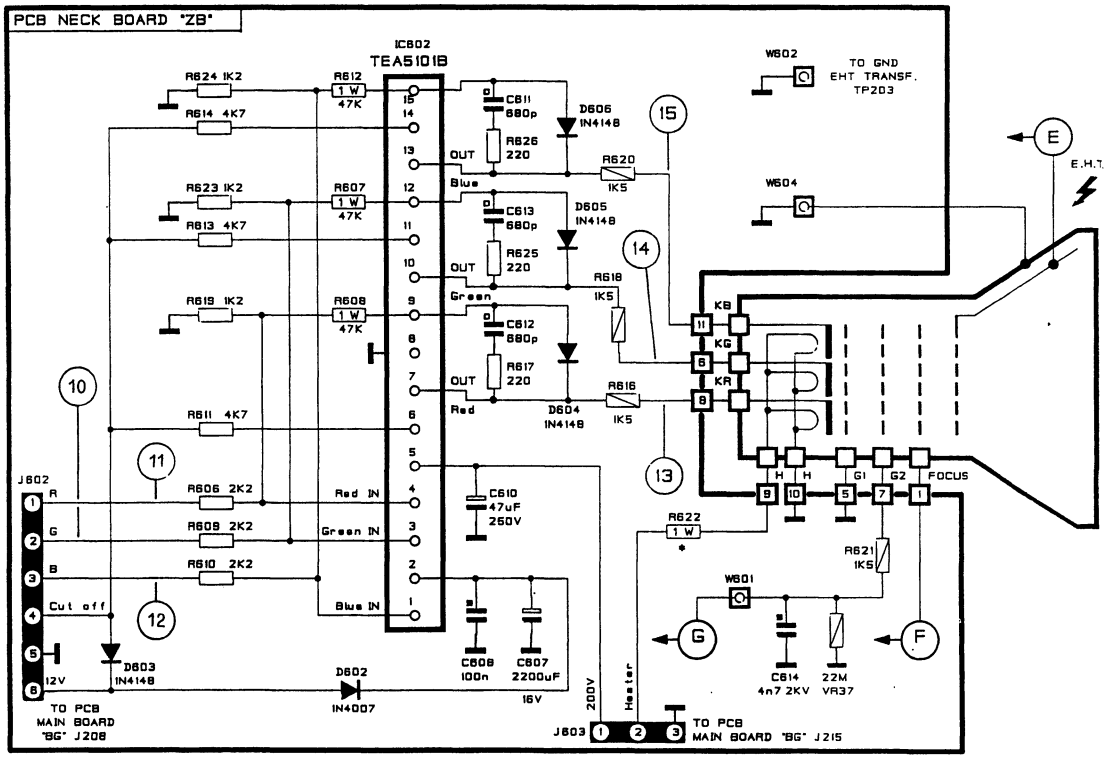
Phase

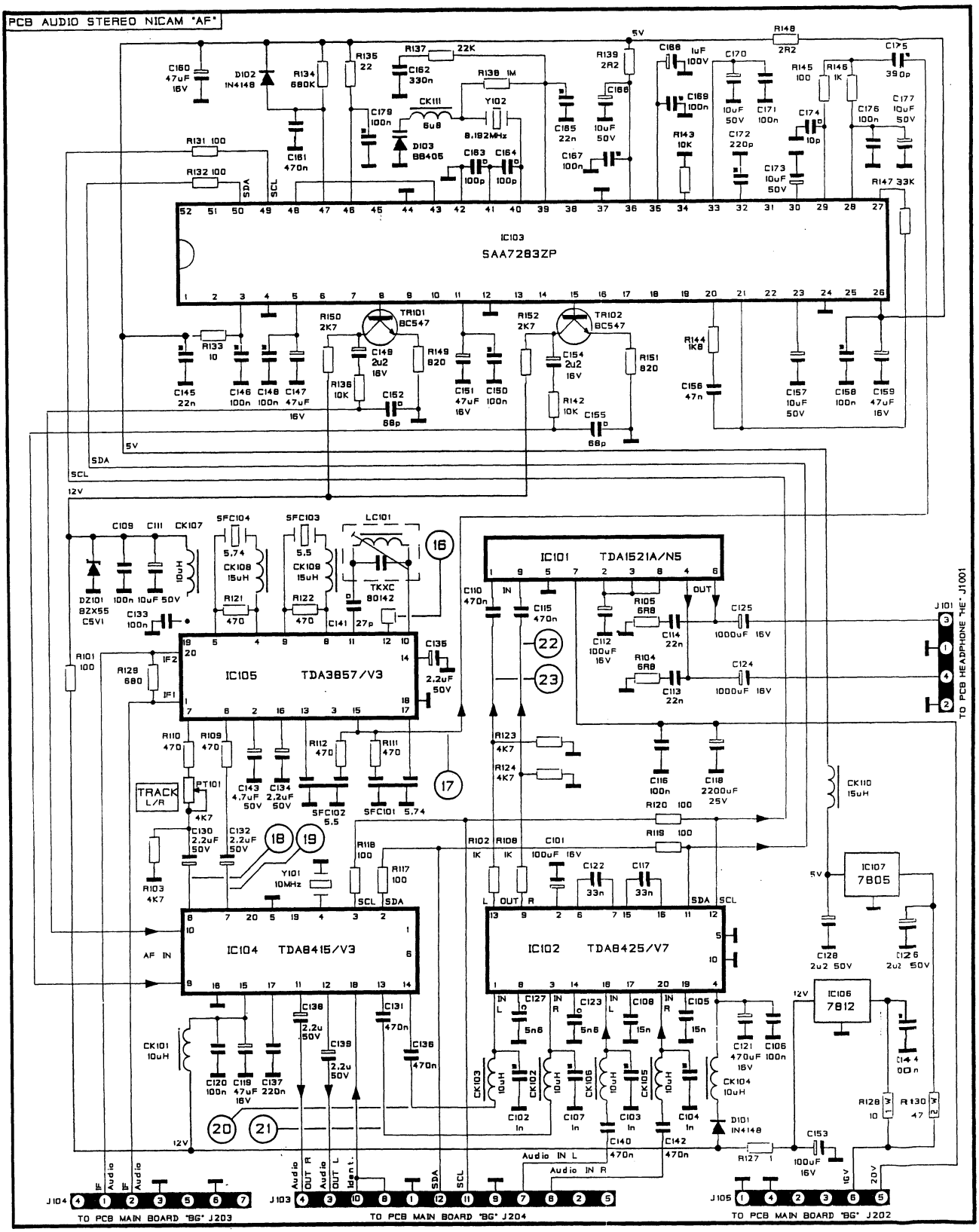
- Adjust The Trimmer PT301 for the correct horizontal centring.

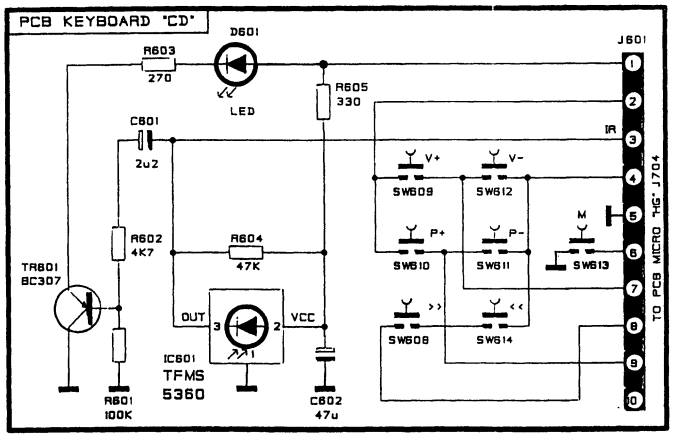
Horizontal frequency

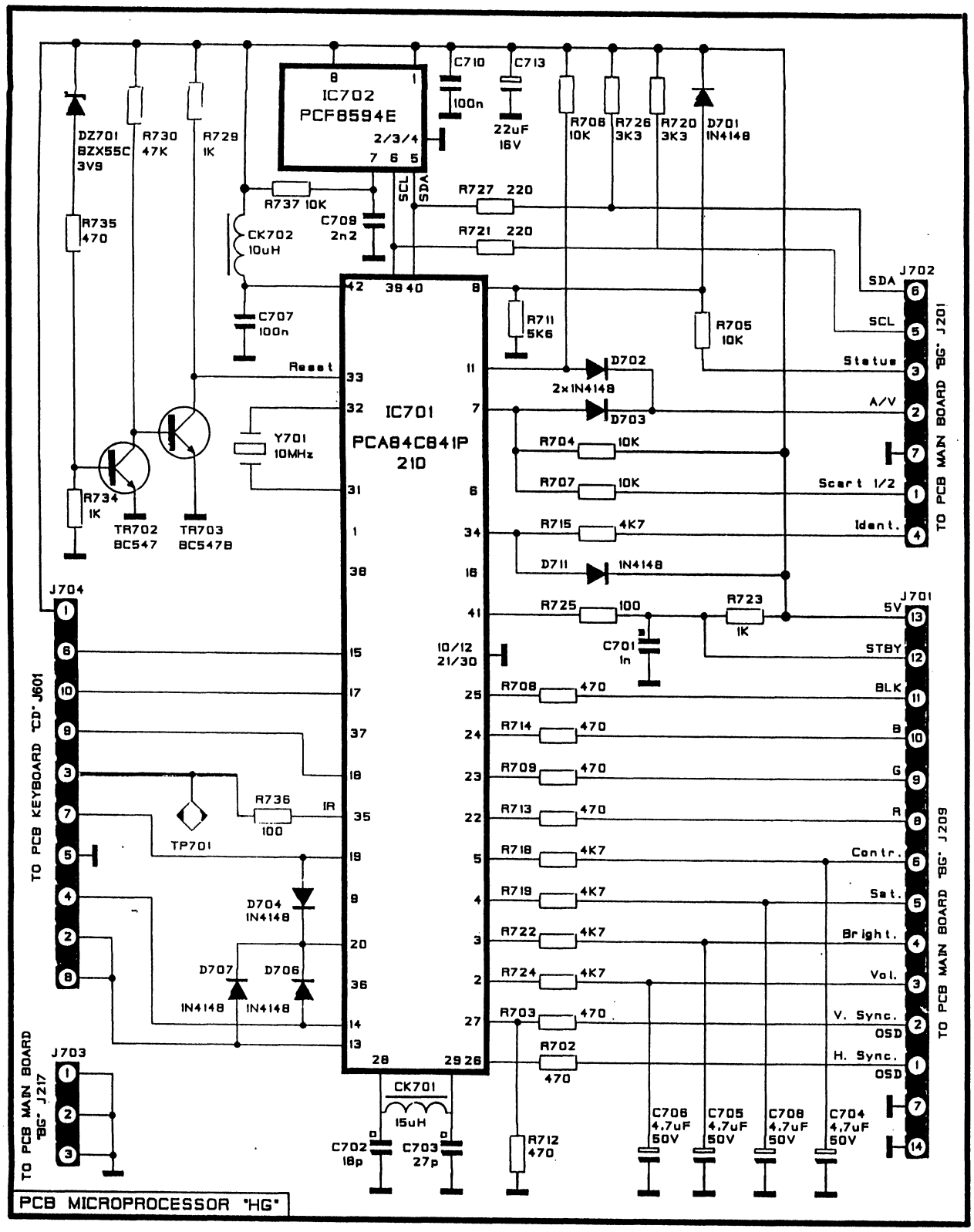
- Shortcircuit the TP201 and TP202 and rotate PT202 in order to have the minimum sliding of the image.

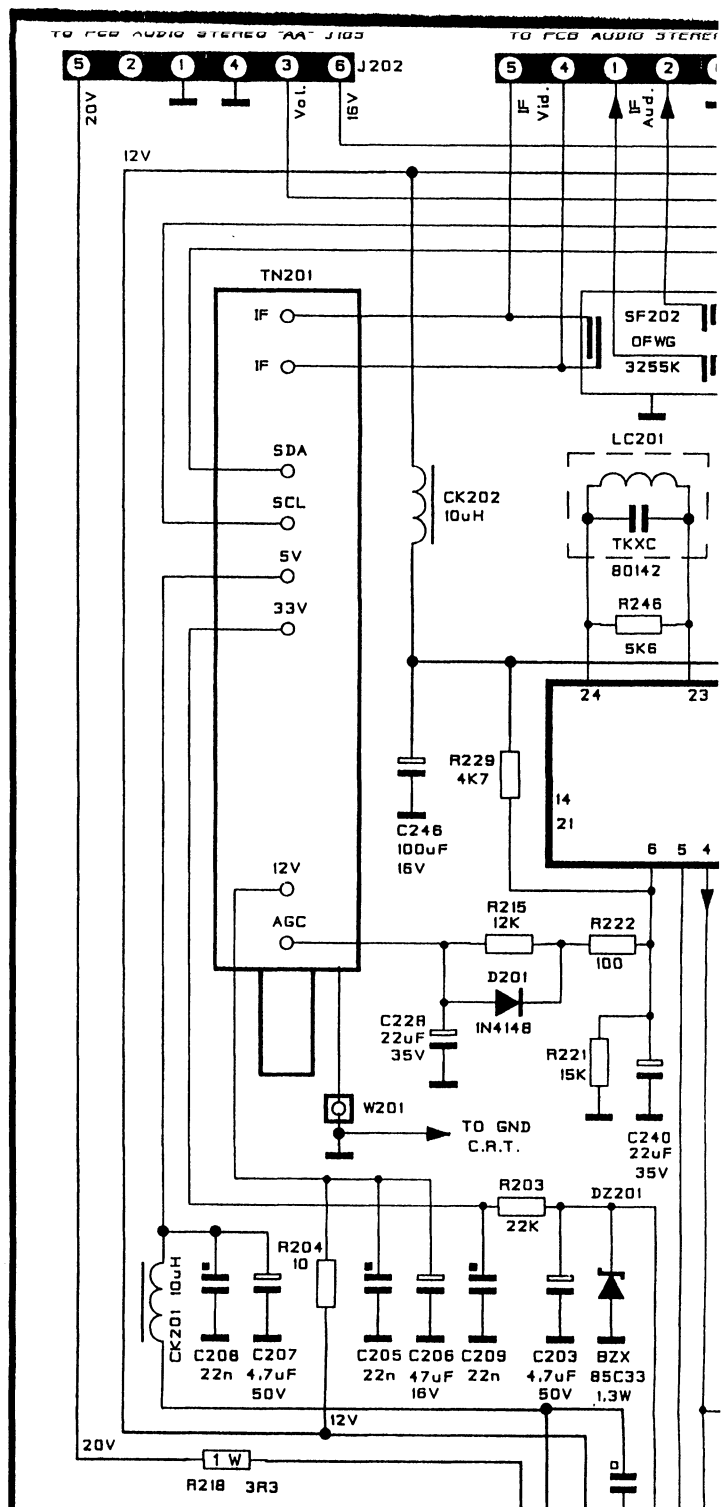

PCB REMOTE CONTROL "TB"
IC1
SAA 3010
SSM
ZD
MDATA
DR7
DR6
DR5
DR4
DR3
X7
X6
X5
X4
X3
X2
X1
X0
Osc.
DR0
DR1
DR2
D1 LTE-3371
TR2 BC337
TR1 BC368
R1 1
R2 100K
R3 22
R4 1
C1 470u 10V
D2 IN4007
3V
R7 5K6
Y1 429Khz
C2 8p2
SW1 0
SW2 1
SW3 2
SW4 3
SW5 4
SW6 5
SW7 6
SW8 7
SW9 PG TLV+
SW10 P/C
SW11 8
SW12 9
SW13 -/--
SW14 PG TLV-
SW15 STBY
SW16 MUTE
SW17 -.--
SW19 MENU+
SW20 MENU-
SW27 >>
SW28 P+
SW29 P-
SW32 SLEEP
SW33 STOP
SW34 SOUND
SW35 ZOOM
SW36 ?
SW37 MIX
SW38 AV
SW39 MENU
SW40 TXT
SW41 TV
SW42 NICAM
SW22 INSTALL
SW23 BLU
SW24 YELLOW
SW25 GREEN
SW26 RED
SPACE
CLOCK

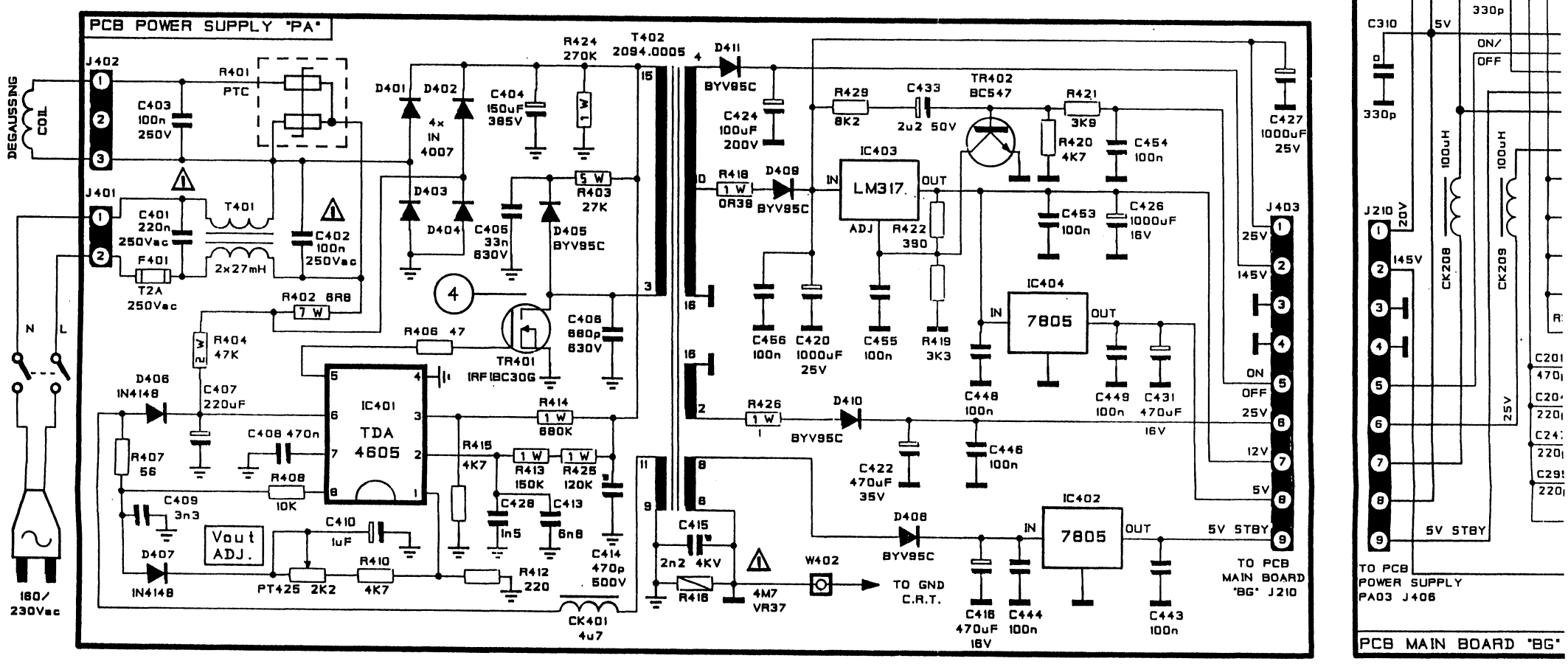

PCB NECK BOARD "ZB"
IC802
TEA5101B
R624 1K2
R614 4K7
R623 1K2
R613 4K7
R619 1K2
R611 4K7
R606 2K2
R608 2K2
R610 2K2
R612 1W 47K
R607 1W 47K
R608 1W 47K
C611 680p
C613 680p
C612 680p
R626 220
R625 220
R617 220
D606 IN4148
D605 IN4148
D604 IN4148
R620 1K5
R618 1K5
R616 1K5
OUT
Blue
Green
Red
Red IN
Green IN
Blue IN
C610 47uF 250V
C608 100n
C607 2200uF 16V
D602 IN4007
D603 IN4148
12V
Cut off
J802
TO PCB MAIN BOARD "BG" J208
J803
TO PCB MAIN BOARD "BG" J215
200V
Heater
W602
TO GND EHT TRANSF. TP203
W604
W601
R622 1W
R621 1K5
C614 4n7 2KV
22M VR37
E.H.T.
KB
KG
KR
H
G1
G2
FOCUS

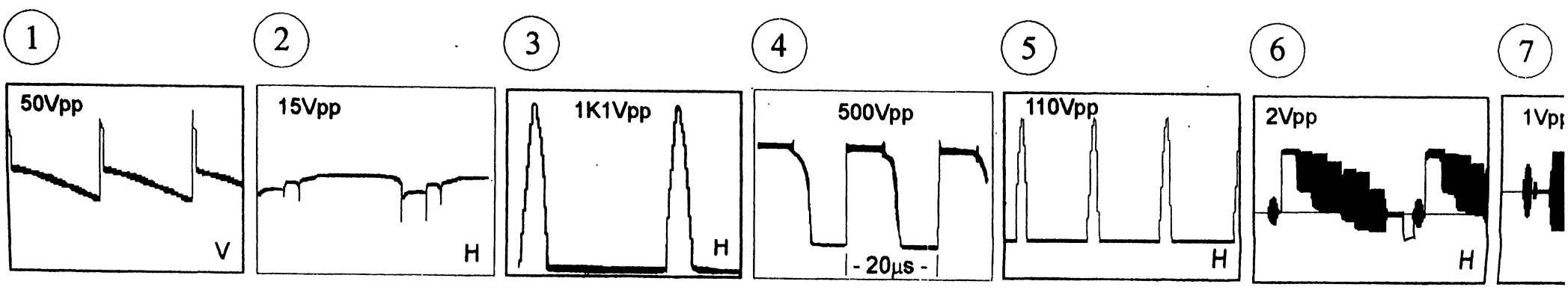

PCB AUDIO STEREO NICAM "AF"
IC103
SAA7283ZP
IC101 TDA1521A/N5
IC105 TDA3857/V3
IC104 TDA8415/V3
IC102 TDA8425/V7
IC107 7805
IC106 7812
TRACK L/R
AF IN
TO PCB HEADPHONE "HE" J1001
TO PCB MAIN BOARD "BG" J203
TO PCB MAIN BOARD "BG" J204
TO PCB MAIN BOARD "BG" J202


PCB KEYBOARD "CD"
LED
IC601
TFMS
5360
TO PCB MICRO "HG" J704


IC702
PCF8594E
IC701
PCA84C841P
210
IC703
TDA
4605
DZ701
BZX55C
3V9
R730
47K
R729
1K
R735
470
R737 10K
C710
100n
C713
22uF
16V
R706
10K
R726
3K3
R720
3K3
D701
IN4148
C709
2n2
CK702
10uH
R727 220
R721 220
C707
100n
R711
5K6
R705
10K
D702
2x IN4148
D703
Reset
Y701
10MHz
R734
1K
TR702
BC547
TR703
BC547B
R704 10K
R707 10K
R715 4K7
D711 IN4148
R725 100
R723
1K
C701
1n
R708 470
R714 470
R709 470
R713 470
R718 4K7
R719 4K7
R722 4K7
R724 4K7
R703 470
R702
470
R712
470
C706
4,7uF
50V
C705
4,7uF
50V
C708
4,7uF
50V
C704
4,7uF
50V
CK701
15uH
C702
18p
C703
27p
J702
SDA
SCL
Status
A/V
Scart 1/2
Ident.
5V
STBY
BLK
B
G
R
Contr.
Sat.
Bright.
Vol.
V. Sync.
OSD
H. Sync.
OSD
TO PCB MAIN BOARD "BG" J201
J704
TO PCB KEYBOARD "C"
TP701
R736
100
IR
D704
IN4148
D707
IN4148
D706
IN4148
J703
TO PCB MAIN BOARD "BG" J217
J601
TO PCB CD "BG"
PCB MICROPROCESSOR "HG"


TO PCB AUDIO STEREO "AA" J103
J202
20V
12V
Vol.
16V
IF
Vid.
TN201
IF
IF
SF202
OFWG
3255K
LC201
SDA
SCL
5V
33V
CK202
10uH
TKXC
80142
R246
5K6
24
23
R229
4K7
C246
100uF
16V
14
21
6 5 4
12V
AGC
R215
12K
R222
100
D201
IN4148
C228
22uF
35V
R221
15K
W201
TO GND
C.R.T.
C240
22uF
35V
R203
22K
DZ201
R204
10
CK201 10uH
C208
22n
C207
4,7uF
50V
C205
22n
C206
47uF
16V
C209
22n
C203
4,7uF
50V
BZX
85C33
1,3W
20V
1 W
R218 3R3
C311
330p


PCB POWER SUPPLY "PA"
DEGAUSSING COIL
J402
R401
PTC
C403
100n
250V
J401
C401
220n
250Vac
T401
2x27mH
C402
100n
250Vac
F401
T2A
250Vac
N
L
180/
230Vac
R402 6R8
7 W
R404
47K
D406
IN4148
C407
220uF
R407
56
D407
IN4148
C409
3n3
R408
10K
C410
1uF
PT425 2K2
R410
4K7
R412
220
Vout
ADJ.
IC401
TDA
4605
R406 47
TR401
IRF1BC30G
C408 470n
R415
4K7
R413
150K
R425
120K
C428
1n5
C413
6n8
C414
470p
500V
CK401
4u7
D401
D402
4x
IN
4007
C404
150uF
385V
R424
270K
T402
2094.0005
D403
D404
C405
33n
630V
D405
BYV95C
C406
680p
630V
R403
27K
D411
BYV95C
C424
100uF
200V
R418
1 W
0R39
D409
BYV95C
R428
8K2
C433
2u2 50V
TR402
BC547
R421
3K9
R420
4K7
C454
100n
IC403
LM317.
ADJ
R422
390
C453
100n
C426
1000uF
16V
C456
100n
C420
1000uF
25V
C455
100n
R419
3K3
IC404
7805
C448
100n
C449
100n
C431
470uF
16V
R426
1 W
D410
BYV95C
C422
470uF
35V
C446
100n
IC402
7805
D408
BYV95C
C415
2n2 4KV
R416
4M7
VR37
W402
TO GND
C.R.T.
C418
470uF
16V
C444
100n
C443
100n
C427
1000uF
25V
J403
25V
14.5V
ON
OFF
25V
12V
5V
5V STBY
TO PCB
MAIN BOARD
"BG" J210
C310
330p
5V
ON/
OFF
J210
20V
14.5V
5V STBY
TO PCB
POWER SUPPLY
PA03 J406
CK208
100uH
CK209
100uH
25V
PCB MAIN BOARD "BG"


1
50Vpp
V
2
15Vpp
H
3
1K1Vpp
H
4
500Vpp
- 20µs -
5
110Vpp
H
6
2Vpp
H
7
1Vpp

JDIO STEREO "AA" J104

TO PCB C.S. AUDIO STEREO "AA" J103

J203 IF Aud. IF Video

J204 SDA SCL Ident. L IN Aud. R L OUT Aud. R

12V

IC204 TDA8304/N1

IC202 TDA8451/N2

IC201 TDA8452A/

IC203 TDA8390A/N1

IC205 74HCT 241

IC207 TDA8170

IC206 TDA8145

TO PCB MICRO "HG" J702

TO PCB MICRO "HG" J703

TO PCB MICRO "HG" J701

J201

J209

J217

J212 Video IN Video OUT — TO PCB TELETEXT "VB" J802 OR "TV154A" N10

J213 SDA SCL — TO PCB TELETEXT "VB" J801 OR "TV154A" N13

J214 BLK R G B — TO PCB TELETEXT "VB" J803 OR "TV154A" N9

J216 VER. YOKE HOR. YOKE

TP201 TP202

LC201 TKXC 80142

SF202 OFWG 3255K

TPS201 5,5

Q201 4,43

CP201 18p

CK201 CK202 CK203 CK204 CK205 CK206 CK207 15uH

CK209 100uH

CK210 10uH

CK211 100uH

CK212 2,5uH

VIDEO OUT AUD. IN L R AUD. OUT R L AV

HOR. FREQ. HOR. PHASE AGC HOR. AMP. E/W AMP. TRAP. ADJ. VER. AMP. VER. LIN.

Vol. Bright. Sat. Cont. BLK B G R H. Sync. OSD V. Sync. OSD 5V S/BY ON/OFF

ON/OFF 5V 12V 25V

ARD "BG"

1 2 3 4 5 6 7 8 9 10 11 12 13

1Vpp H

800mVpp H

8Vpp H

6Vpp H

6Vpp H

6Vpp H

80Vpp

PCB NECK BOARD "ZB"

IC601
TEA5101B

R613 1K2
R611 4K7
R605 1K2
R603 4K7
R609 1K2
R607 4K7
R606 2K2
R601 2K2
R610 2K2
R612 1 W 47K
R604 1 W 47K
R608 1 W 47K

C611 680p
R619 220
C613 680p
R615 220
C612 680p
R617 220
C610 47uF 250V
C608 100n
C607 1000uF 16V

OUT Blue
OUT
OUT Green
OUT Red

D603 IN4148
D605 IN4148
D604 IN4148
R620 1K5
R616 1K5
R618 1K5

W602
W603
15
14
13
KB
KG
KR
H H
9 10
R622 1 W *
R623 680K
C616 In 500V
C615 10uF 250V
D606 IN4007

J601
R
G
B
Cut off
12V
Red IN
Green IN
Blue IN
D601 IN4148
D602 IN4007
10
11
12

TO PCB MAIN BOARD "BG" J208

200V
Heater
J602
TO PCB MAIN BOARD "BG" J215

TR201 BC547
R208 2R2
R213 2R2
C227 22n
C223 100uF 16V
C234 100n
R216 1K
C222 1n
C213 22n
C220 100uF 16V
R212 2R2
R214 1K
R207 270
C218 100n
R208 150
C273 47uF 16V
R241 680K
C270 470n 63V
C267 470uF 16V
CK203 10uH
C248 22n
R240 680K
BCL
C242 220n
C217 10n
C226 10n
C225 100n
R225 22K
C236 5n6
C224 100p
Chrom.
Lum.
Q201 4,43
18p
C231 00n
C214 100n

IC201
TDA8452A/N2
TDA8390A/N1

J208
TO PCB NECK BOARD "ZB" J601

R252 100
R251 100
R243 100
R235 3K3
R238 120K
D205 IN4148
Cut off
R269 82
R277 82
R278 82
R267 82
R269 82K
R242 3M3
D210 IN4148
D219 IN4148
R276 390
R274 390
R272 390
D208 IN4148
D207 IN4148
D206 IN4148
R281 1K
R279 47K
BC547B
TR205
R260 100
R283 10K
R284 10K
R285 10K
IN R
IN G
IN B
FAST BLK
15
11
7
16
3/16
5/16
7/14
9/12
20
6
4
2
R G B
1 5 4 3
CB TELETEXT "VB" J803
OR "TV154A" N9

J215
TO PCB NECK BOARD "ZB" J602
200V
Heater

T203
1192.1147
ELDOR
EHT 25KV
Focus
G2
BCL
D213 BYV95C
R312 1 W 1
D214 BA159
R301 1 W 3R3
C286 22uF 250V
C305 00uF 25V
C303 8,1n 2KV
C304 22n 630V
D217 BY448
D218 BYV95C
CK211 100uH
C285 10n
R295 27
C290 330n 250V
R304 2R2 2 W
C308 *
R292 680K
C282 220n
R287 12K
TP203
TO PCB NECK BOARD W601 "ZB"
E
F
G
3
5

PCB TE

CK801 10uH
C803 C804 56p 56p
C805 22n
C808 10uF
C801 1uF
Y801 13,875Mhz
R810 2 x 100
R808

STV5347 AA5
IC801

TO PCB MAIN BOARD "BG" J212
5V
Vid.IN
Vid.OUT
J802
C808 220n
C802 22n
P801 P802
R805 10
R806 1K
R807 10
R804 100
R801 330
R802 330
R803 330
R809 100
BLK
R V B
J803
TO PCB MAIN BOARD "BG" J214

EUROSCART

AUDIO IN R 2
AUDIO IN L 6
AV 8
FAST BLK 18
VIDEO IN 20
1 AUDIO OUT R
3 AUDIO OUT L
7 IN BLUE
11 IN GREEN
15 IN RED
19 VIDEO OUT

SAFETY COMPONENTS
SCART CONNECTION

PIN N.1
MSF and MKF TYPE
CFM TYPE
MICS TYPE
PIN N.2
PIN N.3
PIN N.4

1/8W
1/4W
1/2W
ELEC CAP.
POLI CAP.
CERA CAP.

ISOWATT220
IRFIBC30G
G D S
B C E

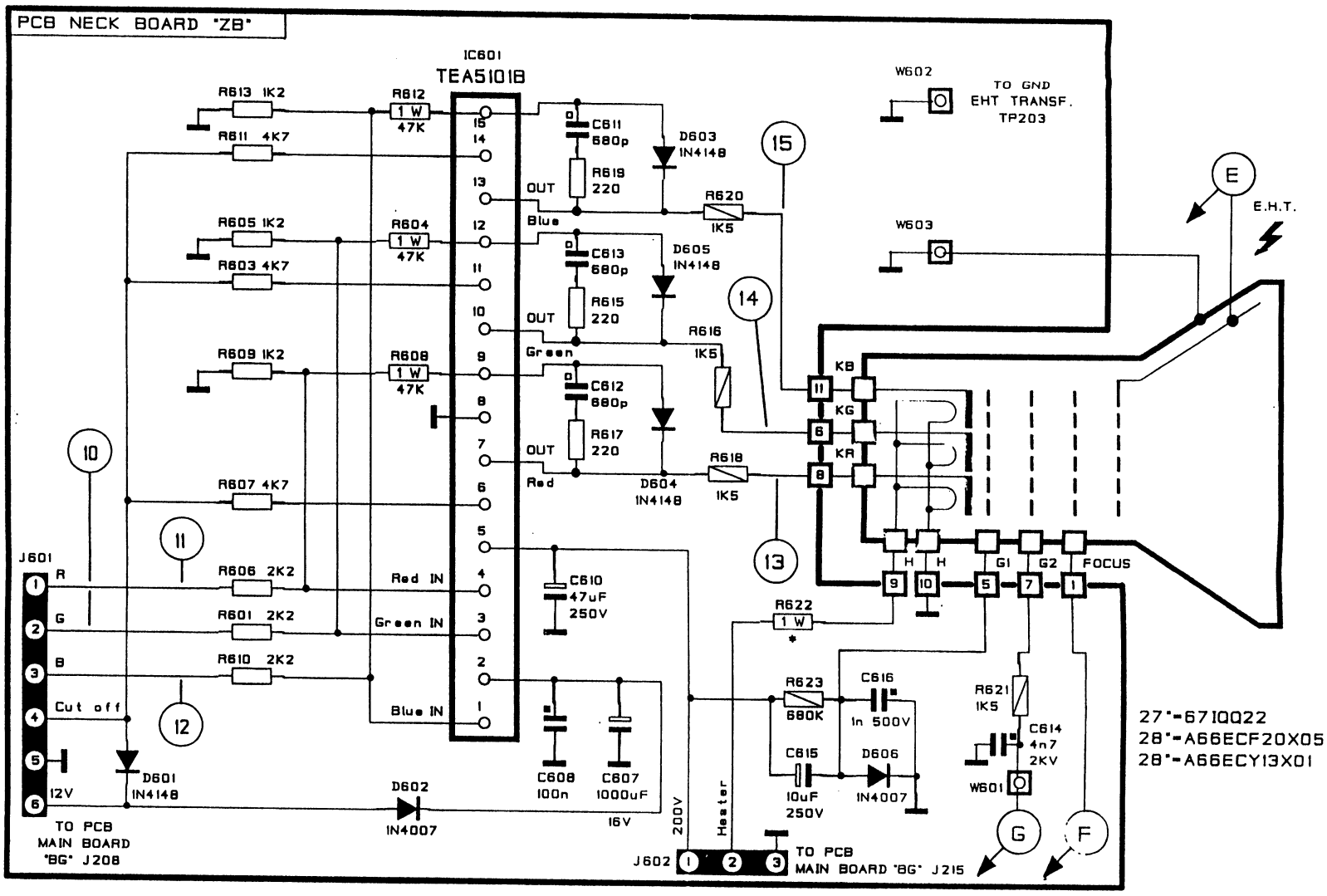
TO92
BC337
BC368
BC637
C E B

13
14
15

80Vpp
80Vpp
80Vpp
H

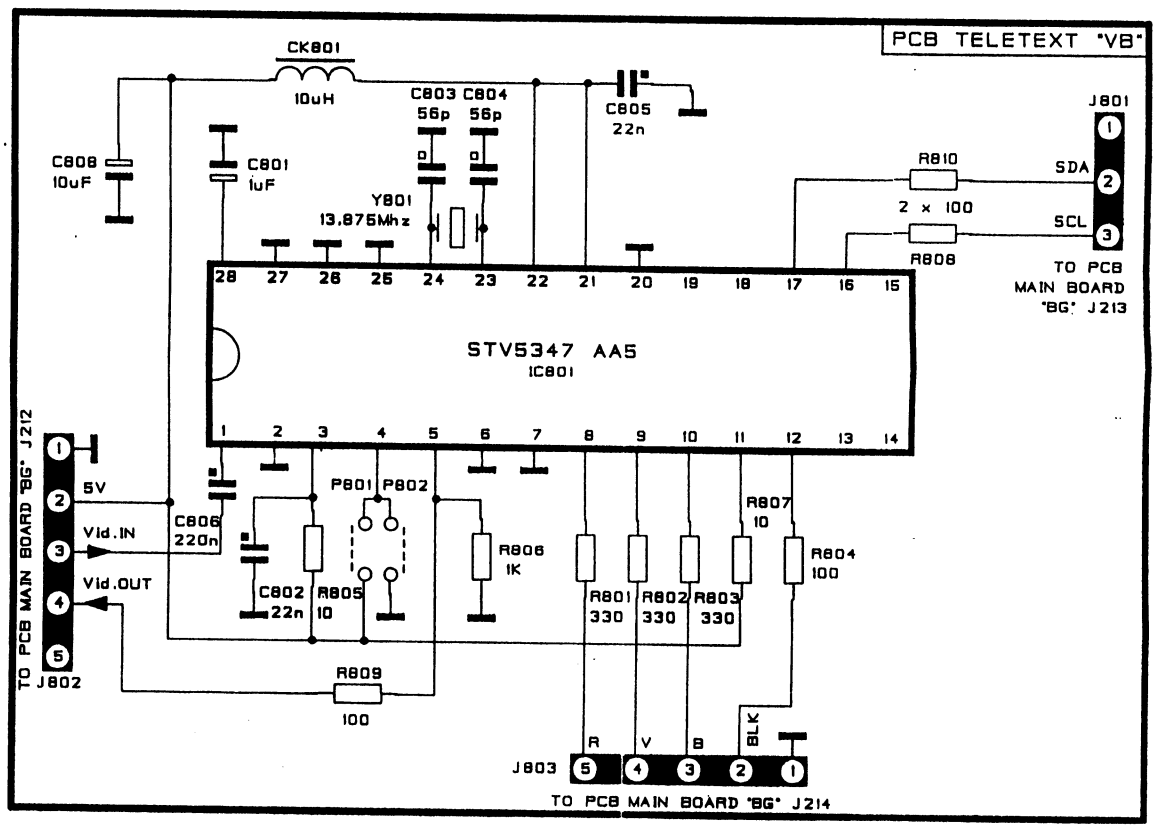
REF.	27" Full Tesla	Pan
R306	No	
R307	OR82	
C308	560n 250V	470
R319	No.	56
R622	OR47 1W	1R

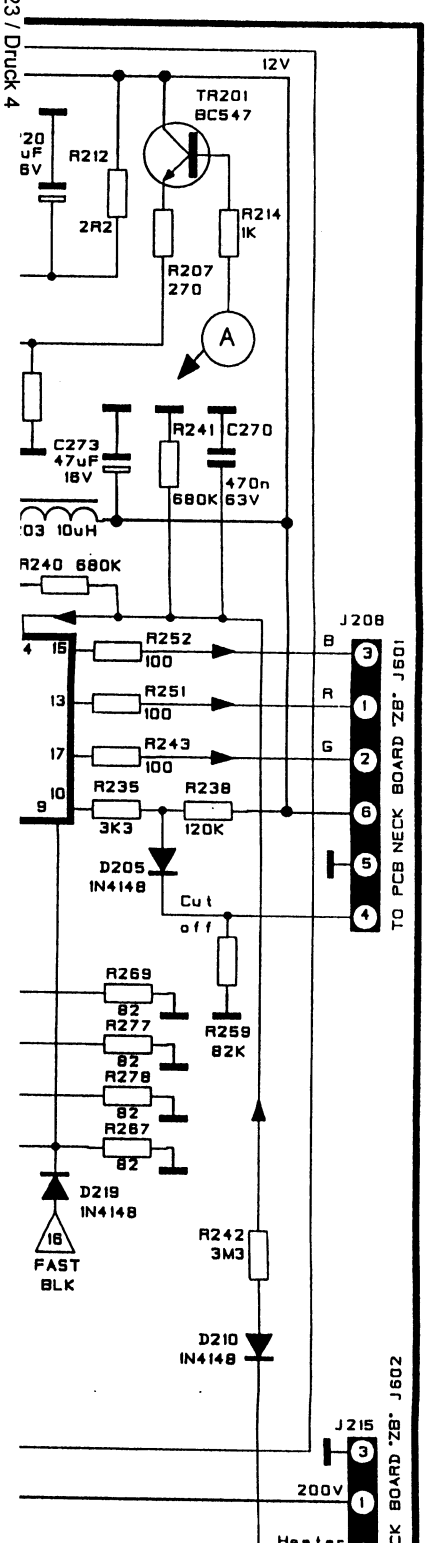
PCB NECK BOARD "ZB"

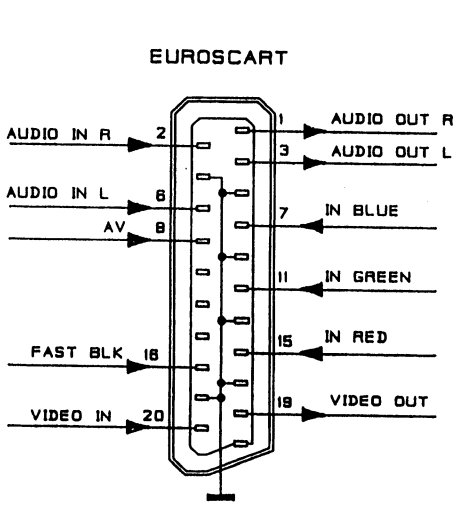


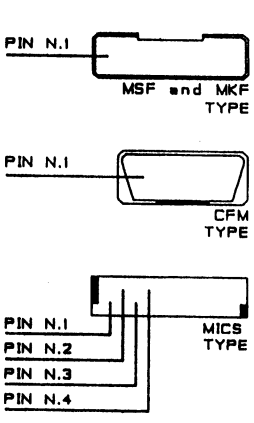
27"-671QQ22
28"-A66ECF20X05
28"-A66ECY13X01

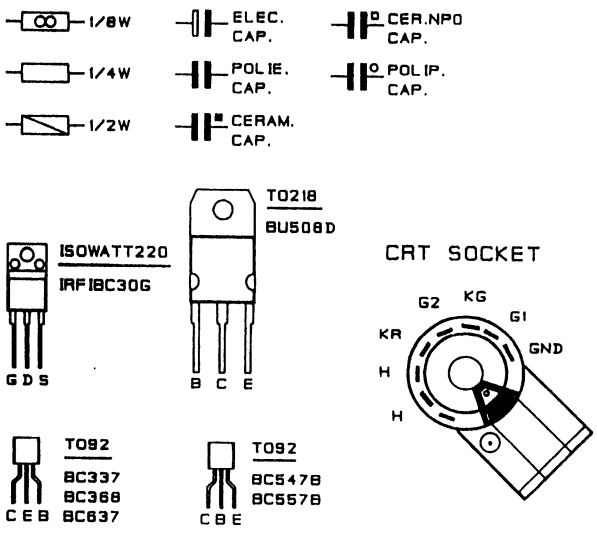
PCB TELETEXT "VB"

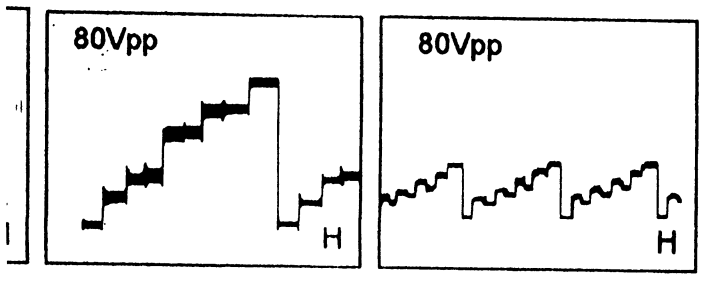












REF.	27" Full Tesla	28" Flat Panason.	28" Flat Videocol.
R306	No	1R2	No
R307	0R82	1	0R82
C308	560n 250V	470n 250V	470n 250V
R319	No.	560 1W	No.
R622	0R47 1W	1R 1W	1R 1W

SAFETY COMPONENTS

SCART CONNECTION

PCB AUDIO STEREO "AA"

IC105 TDA3857/V3

ICNON TDA1521A

IC104 TDA8417/V3

IC102 TDA8425/V7

TO PCB MAIN BOARD "BG" J203

TO PCB MAIN BOARD "BG" J204

TO PCB MAIN BOARD "BG" J202

TO PCB HEADPHONE "HE" J1001

PCB HEADPHONE "HE"

TO PCB AUDIO STEREO "AA"

IC801 MK48M64N

IC802 SAA5246AP/E

TO PCB MAIN BOARD "BG" J213

TO PCB MAIN BOARD "BG" J214

TO PCB MAIN BOARD "BG" J212

PCB TELETEXT "TV145A"

IC802 SAA5281P/E

PCB TELETEXT "TV145A"

16 — 400mVpp — MIN.

17 — 350mVpp — 54,7KHz

18 — 620mVpp

19 — 1,32Vpp — 1KHz

20 — 530mVpp — 1KHz

21 — 500Vpp — 3KHz

22 — 530Vpp — 1KHz

23 — 500Vpp